In the Claims

**Please cancel claims 1-10, 15 and 20. Also please amend claims 11, 14, and 16-19 as indicated below, and add new claims 21-27 as indicated below.**

1 - 10. Canceled.

11. (currently amended) An apparatus to provide full spectrum images ~~consisting of~~ comprising:

a) a full-spectrum light source;

b) a programmable diffraction grating to separate light from the source into its spectral components;

c) ~~a scanning mirror~~;

~~d)~~ a reflection system controllable on a pixel by pixel basis to modulate light output from the diffraction grating; and

d) a scanning mirror to form an image from light modulated by the reflection system.

12. An apparatus according to claim 11 wherein the light source is a femto-second laser.

13. An apparatus according to claim 11 wherein the reflection system is a digital micro-mirror device.

14. (currently amended) An apparatus according to claim 11, for motion imaging at a selected frame rate, wherein the scanning mirror is a multisided, front-surface mirror vibrating in synchronism with the frame rate.

15. Canceled.

16. (currently amended) An apparatus according to claim ~~17~~11, wherein the grating is electrically deformable.

17. (currently amended) An apparatus according to claim ~~18~~16, wherein the grating is affixed to an electrically deformable substrate.

18. (currently amended) An apparatus according to claim ~~17~~11, wherein the grating is magnetically deformable.

19. (currently amended) An apparatus according to claim ~~20~~11, wherein the grating is mounted to a magnetically deformable substrate.

20. Canceled.

21 (new). A method for displaying a pixel having a desired spectral characteristic, the method comprising:

providing full spectrum light;

using a diffraction grating to separate the light into its spectral components; and

modulating the intensity of the spectral components to produce a light output characteristic of such pixel.

22. (new) A method for displaying a full spectrum image, the method comprising:

providing full spectrum light;

using a diffraction grating to separate the light into its spectral components; and

for each pixel of the image, modulating the intensity of the spectral components to produce a light output characteristic of such pixel; and

using a scanning mirror arrangement to form the image.

23. (new) A method according to claim 22, wherein modulating the intensity of the spectral components includes using an array of micro-mirrors.

24. (new) A method according to claim 22, wherein the diffraction grating is deformable, and using the diffraction grating includes deforming it in a controlled manner so to permit selection of desired spectral components.

25. (new) A method according to claim 24, wherein deforming the grating includes using an electrically deformable substrate to which the grating is mechanically coupled.

26. (new) A method according to claim 24, wherein deforming the grating includes using a magneto-strictive substrate to which the grating is mechanically coupled.

27. (new) A method according to claim 22, wherein providing full spectrum light includes using a femto-second laser.